

WHAT IS CLAIMED IS:

Su B1

A method for producing a fertile transgenic plant, comprising the steps of:

- (a) introducing one or more genetic component(s) one desires to introduce into the genome of a plant by co-culturing a regenerable plant cell or tissue with *Agrobacterium* containing said genetic component(s); *AI*
- (b) co-culturing said *Agrobacterium* and regenerable plant cells or tissues of step (a) under conditions that decrease the weight of said *Agrobacterium*-inoculated explant;
- (c) identifying or selecting a transformed cell line; and
- (d) regenerating a fertile transgenic plant therefrom.

2. The method of claim 1 wherein the regenerable cell or tissue is precultured prior to step (a).

3. The method of claim 1 wherein the conditions for co-culture comprise limitation or removal of moisture from the *Agrobacterium*-inoculated explant wherein the weight of the explant is reduced by not more than 50%.

4. The method of claim 3 wherein the weight of the *Agrobacterium*-inoculated explant is reduced by up to 40%.

5. The method of claim 3 wherein the weight of the *Agrobacterium*-inoculated explant is reduced by up to 30%.

6. The method of claim 3 wherein the moisture-limitation or removal period after inoculation with *Agrobacterium* is greater than one hour.

7. The method of claim 3 wherein the moisture-limitation or removal period after inoculation with *Agrobacterium* is from one hour to about 6 days.

8. The method of claim 3 wherein the moisture-limitation or removal period after inoculation with *Agrobacterium* is from about one day to about 4 days.

9. The method of claim 3 wherein the moisture-limitation or removal period after inoculation with *Agrobacterium* is from about one day to about 3 days.

10.. The method of claim 1 wherein the transgenic plant is a monocot.

11. The method of claim 1 wherein the transgenic plant is a dicot.

5 12. The method of claim 10 wherein the monocot is wheat, corn, or rice.

13. The method of claim 10 wherein the monocot is wheat.

14. The method of claim 10 wherein the monocot is corn.

15. The method of claim 10 wherein the monocot is rice.

16. The method of claim 11 wherein the dicot is soybean.

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